

EVAPORATION TECHNOLOGY IN DIE-CASTING



CUSTOMER



Montichiari (BS), Italy

Years of activity	50
Industry	Mechanical
Production process	Aluminum die-casting for office components
Wastewater	Oil emulsion with releasing agent

CHALLENGE

Customer's needs

Reduce the disposal costs and reuse the distillate.

Goals to achieve

- To obtain a high distillate quality for the reuse
- To concentrate as much as possible to reduce disposal costs

SOLUTION SUPPLIED

DESCRIPTION OF THE SUPPLIED SOLUTION

ECO 30.000 DPM-3 is a triple effect evaporator with submerged heat exchangers. It works with thermal energy, so hot water (or steam) and cold water. With a triple effect the energy consumption is reduced enormously. High final oil concentrations are achievable.

% WATER REUSE 97%

CONCENTRATION FACTOR 30

ZLD? Yes

ANALYSIS



INLET



DISTILLATE



CONCENTRATE

PARAMETERS	UNIT	WASTEWATER INLET	DISTILLATE	CONCENTRATE
pH		6	6,5	7,1
TS 105° C	%	0,85	/	> 25
Conductibility	μS/cm	1090	< 150	/
COD	ppm	26255	< 1200	/

CONCLUSIONS

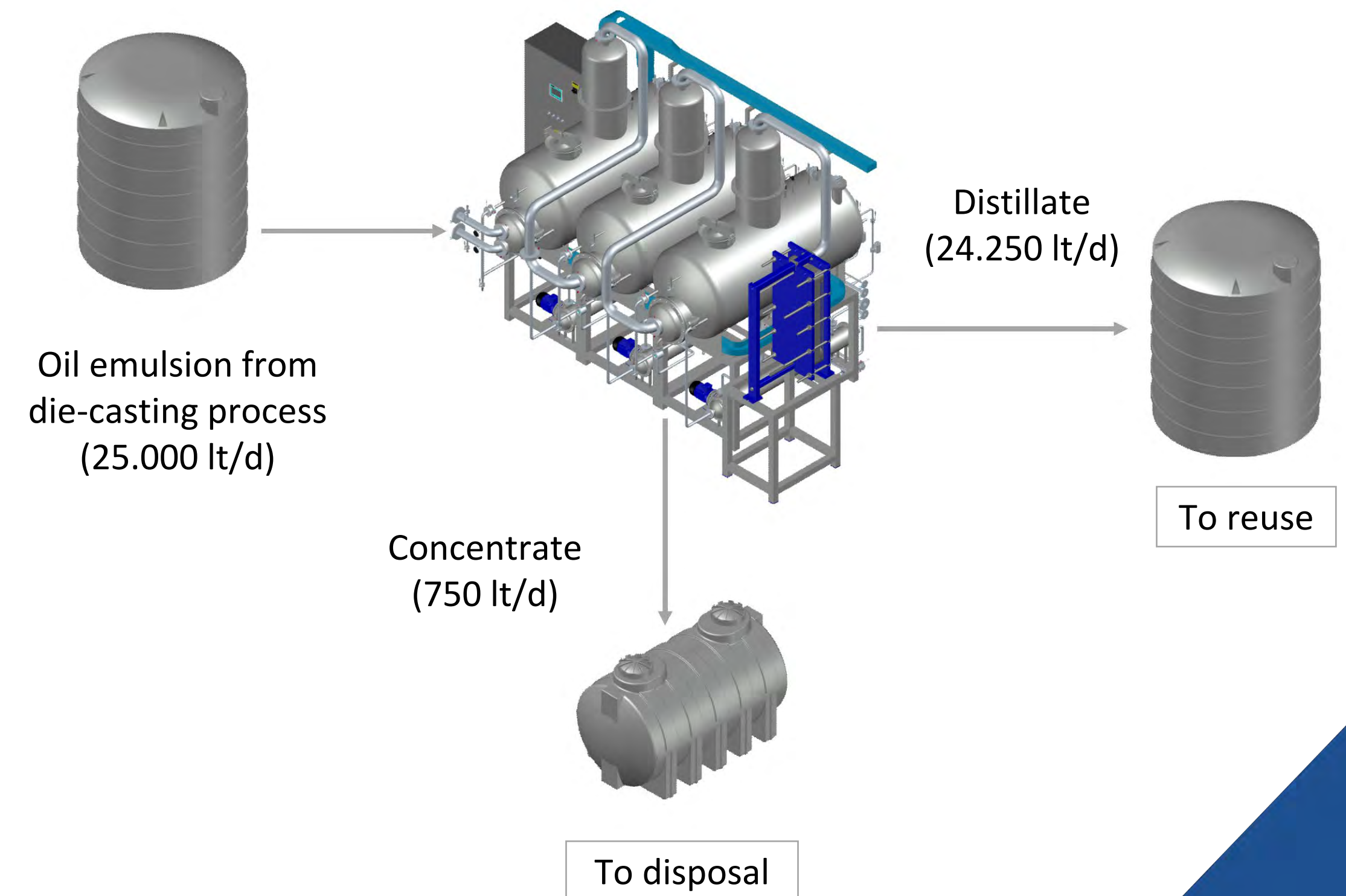
Thanks to our solution, the customer immediately had benefits in terms of disposal costs reduction: in fact, the payback period was less than 3 years.

With the distillate the customer produces new emulsions for the process and thus, it occurs a drastic reduction in terms of fresh water used.

Maintenance on this unit is negligible: the customer cleans the unit just twice per year with a diluted chemical solution. This is enough to keep the evaporator efficiency constant, with particular reference to heat exchangers.

Recently the client bought another ECO 30.000 DPM-3 for an increase in the volumes of wastewater produced. This is the best demonstration of the customer satisfaction.

MASS BALANCE





The installed plant during regular daily functioning



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